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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/901,214	07/09/2001	Gordon L. Amidon	PSL-10202/39	6240

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Gifford, Krass, Groh, Sprinkle,
Anderson & Citkowski, P.C.
Suite 400
280 N. Old Woodward
Birmingham, MI 48009

EXAMINER
HUI, SAN MING R

ART UNIT	PAPER NUMBER
1617	

DATE MAILED: 01/15/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/901,214	Applicant(s) AMIDON ET AL.	
	Examiner San-ming Hui	Art Unit 1617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

P riod for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 November 2002* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 4, 2002 has been entered.

Applicant's amendments filed November 4, 2002 have been entered.

The outstanding rejection under 35 USC 112, second paragraph is withdrawn in view of the amendments filed November 4, 2002.

The outstanding rejection under 35 USC 102 is withdrawn in view of the amendments filed November 4, 2002.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, first paragraph, because the specification fails to adequately teach how to make and/or use the invention, and thereby failing to provide an enabling disclosure.

The instant specification fails to provide information that would allow the skilled artisan to practice the instant invention without undue experimentation. Attention is

directed to *In re Wands*, 8 USPQ2d 1400 (CAFC 1988) at 1404 where the court set forth the eight factors to consider when assessing if a disclosure would have required undue experimentation. Citing *Ex parte Forman*, 230 USPQ 546 (BdApls 1986) at 547 the court recited eight factors:

1) the quantity of experimentation necessary,

2) the amount of direction or guidance provided,

3) the presence of absence of working examples,

4) the nature of the invention,

5) the state of the prior art,

6) the relative skill of those in the art

7) the predictability of the art, and

8) the breadth of the claims.

Applicant fails to set forth the criteria that define which "drug" may be used in the instant invention. Additionally, Applicant fails to provide information allowing the skilled artisan to ascertain these compounds without undue experimentation. Please note that all drugs have different diffusion coefficients and different diffusion coefficient would affect other components of the composition differently. In the instant case, only a limited number of "drug" examples are set forth, thereby failing to provide sufficient working examples. It is noted that these examples are neither exhaustive, nor define the class of compounds required. The pharmaceutical art is unpredictable, requiring each embodiment to be individually assessed for physiological and pharmacokinetic activity. The instant claims read on all "drug(s)", necessitating an exhaustive search for the

embodiments suitable to practice the claimed invention. Applicants fail to provide information sufficient to practice the claimed invention, absent undue experimentation.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The expression "maintaining a region adjacent to said drug particle" in claims 1 and 12 renders the claims indefinite as to what region is encompassed by such term.

The limitation "contains solubilizing agent micelles to solubilize same through..." in claims 1 and 12 renders the claims indefinite as to what the word "same" referred to. Does it refer to the drug particle? Or the micelles?

Please also note that the variables in the equation recited in the claims have no units. One of ordinary skill in the art would consider the units of these variables critical to the invention.

Furthermore, the expression "drug disposed in the drug particle has a solubility greater than twofold that of said drug in a bulk form..." in claims 1 and 12 renders the claims indefinite because it is unclear to one of ordinary skill in the if the drug disposed in the drug particle and that in a bulk form are having the same particle size or not. Without expressly stating such properties, one of ordinary skill in the art would not be able to ascertain the proper materials to practice the instant invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Amidon et al. (US Patent 5,834,022) in view of Woo (US Patent 5,589,455) and Gennaro et al. (Remington's Pharmaceutical Sciences, 18th ed., 1990, page 1662-1664), references of record.

Amidon et al. teaches a coating (the boundary layer) composition consisting essentially of gelatin (a matrix) and lecithin (solubilizing agent) and in which the drug are disposed within the boundary layer (See particularly col. 9, line 15 – col. 12, line 19). Amidon et al. also teaches cyclosporin and griseofluvin (the drug actives) have dissolution rates of both drugs increased to about 20% and 40% respectively when employed the lecithin/gelatin coating drug delivery system (See particularly col. 6, lines 3-13; also Figures 2-7).

Amidon et al. does not expressly teach that the coating composition contains emulsion or microemulsion or micelles. Amidon et al. does not expressly teach that the matrix that formed the boundary layer comprises a film.

Woo teaches that a microemulsion may be used in a soft capsule pharmaceutical formulation to enhance the solubility of a poorly soluble drug, cyclosporin (See particularly abstract, also 4, line 53 to col. 7, line 13).

Gennaro et al. teaches that a gelatin film may be used in the preparation of soft gelatin capsules (See particularly page 1663, col. 2, second paragraph).

It would have been obvious to one skill in the art when the invention was made to incorporate microemulsion and the film into the composition of Amidon et al.

One of ordinary skill in the art would have motivated to incorporate microemulsion and the film into the composition of Amidon et al. because both microemulsion and the film are well known in the art to be useful in poorly-soluble enhancement formulation, based on Woo and Gennaro et al. Therefore, absent evidence to the contrary, combining agents which are known to be useful to enhance drug solubility individually into a single composition useful for the very same purpose is prima facie obvious. See *In re Kerkhoven* 205 USPQ 1069. Please note that the formation of micelles is depending on the concentration of the surfactant, so called critical micelle concentration. Since the cited prior art teaches the herein claimed surfactant, adjusting the concentration of the surfactants, either to form emulsions or micelles, are within the purview of the skilled artisan.

Response to Arguments

Applicant's arguments filed November 4, 2002 averring the efficacy of micelles to control the boundary layer volume so that the solubility of the drug will be as herein

recited, have been fully considered but they are not persuasive. Applicant's arguments are apparently drawn to the method of solubilizing the poorly soluble drug by adjusting the volume of boundary layers using micelles. Please note that the herein claims are drawn to a composition. The remarks about micelles are believed to be addressed in the rejection under 35 USC 103(a).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to San-ming Hui whose telephone number is (703) 305-1002. The examiner can normally be reached on Mon 9:00 to 1:00, Tu - Fri from 9:00 to 6:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sreeni Padmanabhan, PhD., can be reached on (703) 305-1877. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-4556 for regular communications and (703) 308-4556 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1235.

San-ming Hui
January 9, 2003

RUSSELL TRAVERS
PRIMARY EXAMINER
GROUP 1200